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| <p>83-815508/46 CHEM WERKE HULS AG 06.05.82-DE-216988 (10.11.83) C08f-120/18 C08f-265/06 C08f-299 C08f-27/06 C08f-33/08 Polymerised phenylalkyl acrylate cpds. - are prepd. as additives for PVC to improve impact resistance and transparency</p> | <p>A14 CHEM 06.05.82 *DE 3216-988-A A(4-E2B, 4-F6A, 4-F6E, 8-M9)</p> | <p>C83-110563 Phenylalkyl acrylate polymers contg. repeat units of formula (I) are new $\left[\text{CH}_2 - \underset{\text{I}}{\text{CH}} \right]_x$ $\text{O} = \text{C} - \text{O} - \text{R} - \text{Ph} \quad (\text{I})$ <p>R is n- or branched 3-4C alkylene gp., opt. interrupted by an ether O atom, the straight chain portion contg. at least 3C; and x is 30-200,000 (also given as 20-500,000), pref. 50-50,000. (I) are prepd. by emulsion, suspension, mass or soln. polymn. of the phenylalkyl acrylate, $\text{CH}_2 = \text{CHCOORPh}$ (II) (e.g., 3-phenylpropyl acrylate (III)), esp. by emulsion polymn. in presence of ionic or nonionic emulsifiers and water-sol. catalysts at 5-120°C.</p> </p> | <p>USE Also claimed is the use of (I) as impact modifiers in transparent PVC compsn., the amt. of (I) pref. being 5-30 wt. %.</p> <p>DETAILS in emulsion polymerisation of (II), 0.1-3, partic. 0.5-2, wt. % emulsifier, e.g. Na laurate or Na laurylsulphate, is used on wt. of (II), partic. at 40-90°C., using e.g. $(\text{NH}_4)_2\text{S}_2\text{O}_8$. (I) are atactic and have broad mol. wt. distribution, e.g. no. average mol. wt. 5000-50000 with wt. average mol. wt. 50000-500000000. (I) can also be prepd. in presence of crosslinking cpds., e.g. divinylbenzene, divinyl and diallyl esters, divinyl ethers and partic. di- or tri(meth)acrylates, since they copolymerise readily and impart better thermal stability.</p> <p>EXAMPLE 2150 g. 3-Phenylpropanol, 500 g. toluene, 20 g. toluene-p-sulphonic acid and 0.1 g. hydroquinone were heated to 150-170°C. 25 g. Acrylic acid was added and when water appeared in the separator, the DE3216988-A+</p> |
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remaining 840 g. acrylic acid was added over 3 hrs. The cooled mixt. was washed with NaHCO_3 soln. and water, and the organic phase fractionally distilled to give (III), b. pt. $120^\circ\text{C}/6$ mbar.

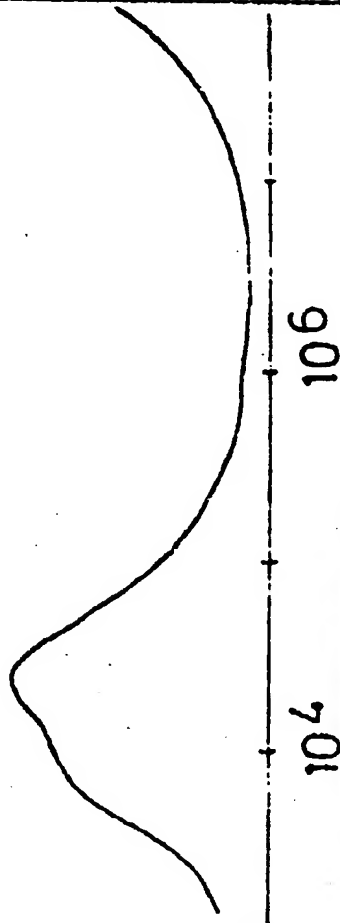
A latex was prepd. by heating 250 g. (III), 950 g. water and 3 g. Na laurate, 5 ml. soln. of 0.15 g. $(\text{NH}_4)_2\text{S}_2\text{O}_8$ in 50 g. water being added during heating up and the remainder over 2 hrs., the mixt. being kept at 80°C . After 30 mins., the mixt. was cooled.

A stable white latex, no. average mol. wt. 8100 and wt. average mol. wt. 134000000, was obtd. (see graph).

PVC was grafted onto the prod. and then formulated into a moulding compsn. of high light transmission and good notched impact strength (see graph).

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Häufigkeit



Molekulargewicht M' DE 3216988-A